

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method for manufacturing ~~a pressed part~~ a magnet core for a common-rail injector from a soft magnetic composite material, the method comprising:

providing a starting mixture including an iron powder and an auxiliary pressing agent;
~~and not including a thermoplastic material;~~

pressing the starting mixture to form a pressed part; and

annealing, in an annealing step, the pressed part in a gas mixture of inert gas and oxygen, a concentration of oxygen in the gas mixture being between 1% and 10% by volume.

2. (Original) The method of claim 1, wherein the concentration of the oxygen in the gas mixture is between 2% and 7% by volume, and the gas mixture is a mixture of air and one of nitrogen and a noble gas.

3. (Original) The method of claim 1, wherein the annealing is performed at temperatures between 380°C and 450°C over a time period of 10 to 120 minutes.

4. (Original) The method of claim 3, wherein the annealing is performed at a temperature of 425°C over a time period of 30 to 60 minutes.

5. (Original) The method of claim 1, wherein the pressing is performed at room temperature, and at a pressure between 600 MPa and 900 MPa.

6. (Previously Presented) The method of claim 5, wherein the pressing is performed at a pressure between 700 MPa to 800 MPa.

7. (Original) The method of claim 1, wherein the iron powder of the starting mixture is a phosphatized, pure iron powder and the auxiliary pressing agent is selected from the group including metal stearates, waxes, paraffins, natural or synthetic fat derivatives, and oligoamides, the oligoamides including Kenolube®.

8. (Previously Presented) A method for manufacturing a pressed part from a soft magnetic composite material, the method comprising:
providing a starting mixture including an iron powder and an auxiliary pressing agent;
pressing the starting mixture to form a pressed part;
annealing, in an annealing step, the pressed part in a gas mixture of inert gas and oxygen, a concentration of oxygen in the gas mixture being between 1% and 10% by volume;
prior to the annealing step, initially annealing the pressed parts at a temperature of 150°C to 400°C in one of air, an inert-gas atmosphere, and a mixture of an inert gas and oxygen in which an oxygen concentration in the gas mixture is between 1% and 10% by volume; and
postforming the pressed parts.

9. (Original) The method of claim 8, wherein the pressed parts are initially annealed at a temperature of 230°C to 310°C.

10. (Original) The method of claim 8, wherein the postforming includes one of pressing at a pressure between 600 MPa and 900 MPa and planar hot-forming.

11. (Original) The method of claim 10, wherein the pressing is performed at a pressure of between 700 MPa and 800 MPa.

12. (Original) The method of claim 1, further comprising:
after annealing the pressed part in a gas mixture of inert gas and oxygen,
mechanically processing at least sections of a surface of the pressed parts.

13. (Original) The method of claim 12, wherein the mechanical processing includes grinding.

14. (Currently Amended) A method for manufacturing ~~a pressed part~~ a magnet core for a common-rail injector from a soft magnetic composite material, the method comprising:
providing a starting mixture including an iron powder and an auxiliary pressing agent;
pressing the starting mixture to form a pressed part;
annealing the pressed part;
after the annealing, postforming the pressed part; and

after the postforming re-annealing the pressed part;
~~wherein the starting mixture does not include a thermoplastic material.~~

15. (Original) The method of claim 14, wherein the postforming includes one of pressing at a pressure between 600 MPa and 900 MPa at room temperature and flat hot-forming.

16. (Original) The method of claim 15, wherein the pressing is performed at a pressure between 700 MPa and 800 MPa.

17. (Original) The method of claim 14, wherein the re-annealing is performed at temperatures between 380°C and 450°C over a time period of between 10 and 120 minutes.

18. (Original) The method of claim 17, wherein the re-annealing is performed at a temperature of 425°C over a time period of between 30 min and 60 minutes.

19. (Original) The method of claim 14, wherein the annealing is performed at a temperature of between 150°C to 400°C over a time period of between 10 min and 120 minutes.

20. (Original) The method of claim 19, wherein the annealing is performed at a temperature of between 230°C to 310°C over a time period of between 30 minutes to 60 minutes.

21. (Original) The method of claim 14, wherein the pressing is performed at room temperature at a pressure between 600 MPa and 900 MPa.

22. (Original) The method of claim 21, wherein the pressing is performed at a pressure between 700 MPa to 800 MPa.

23. (Original) The method of claim 14, wherein at least one of the annealing and the re-annealing is performed in one of air, a nitrogen atmosphere, a noble-gas atmosphere, and a mixture of an inert gas and oxygen having an oxygen concentration of between 1% and 10% by volume.

24. (Previously Presented) A method for manufacturing a pressed part from a soft magnetic composite material, the method comprising:

providing a starting mixture including an iron powder and an auxiliary pressing agent;
pressing the starting mixture to form a pressed part; annealing the pressed part;
after the annealing, postforming the pressed part; and
after the postforming re-annealing the pressed part, wherein:

at least one of the annealing and the re-annealing is performed in one of air, a nitrogen atmosphere, a noble-gas atmosphere, and a mixture of an inert gas and oxygen having an oxygen concentration of between 1% and 10% by volume; and
the annealing and the re-annealing are performed in the gas mixture of the inert gas and oxygen, the oxygen concentration in the gas mixture being between 1% and 10% by volume.

25. (Original) The method of claim 14, wherein the iron powder in the starting mixture is a phosphatized, pure iron powder and the auxiliary pressing agent is selected from the group including metal stearates, waxes, paraffins, natural or synthetic fat derivatives, and oligoamides, the oligoamides including Kenolube®.

26. (Original) The method of claim 14, further comprising:
after re-annealing, mechanically processing at least sections of a surface of the pressed parts.

27. (Original) The method of claim 26, wherein the mechanical processing includes grinding.

Claim 28. (Canceled).